

IN THE CLAIMS

Please amend claims 4 through 9, 11, 14 through 19, 21, 22, 25, 28 through 31, 33, 35 through 41, 43, 45 and 48, and add claims 52 through 60, as follows:

1 1. For use in a cathode ray tube display connected to a computer system, an apparatus for
2 setting an ID code comprising:

3 video amplifier means for amplifying image information input from said computer system
4 to display on a screen of said cathode ray tube display;

5 a key pad having an array of keys for generating a key input signal to compose an ID code;

6 memory means for storing ID code data input via said key pad by a user's manipulation;

7 a microcomputer for controlling said display responsive to a result of a comparison
8 between said ID code input via said key pad with said ID code data stored in said memory, and for
9 receiving horizontal and vertical frequency signals from said computer system to control an
10 operation of said display;

11 an on-screen circuit for converting a digital information signal synchronized with a train
12 of clock pulses input from said microcomputer into an analog video signal having red, green and
13 blue components; and

14 mixer means for mixing said analog video signal input from said on-screen circuit and a
15 signal input from said video amplifier means.

1 2. The apparatus for setting an ID code as set forth in claim 1, said apparatus further
2 comprising a plurality of analog switches interposed on a respective electrical conduction path

3 between respective output terminals of said computer system and respective input terminals of said
4 video amplifier means, said analog switches being turned off by a control signal output from a
5 video mute terminal of said microcomputer when the result of said comparison indicates that said
6 ID code input from said key pad is inconsistent with said stored ID code data.

1 3. In cooperation with a computer system that provides analog computer image signals,
2 a display system comprising:

3 a video amplifier to amplify the analog computer image signals to provide amplified image
4 signals;

5 one of a first microcomputer circuit and a second microcomputer circuit, the first
6 microcomputer circuit including a microcomputer coupled to the video amplifier to control the
7 gain of the video amplifier, the second microcomputer circuit including the microcomputer
8 coupled to analog switches that are coupled between the computer system and the video amplifier
9 so that the microcomputer controls the connection state of the analog switches;

10 an on-screen circuit to convert digital information signals from the microcomputer into
11 analog on-screen image signals, the microcomputer being coupled to horizontal and vertical
12 synchronizing signals from the computer system to synchronize the analog on-screen image signals
13 with the analog computer image signals;

14 a memory coupled to the microcomputer to store a stored ID code;

15 a key pad coupled to the microcomputer to form a keyed ID code, the microcomputer
16 determining when the stored ID code is unequal to the keyed ID code, the microcomputer setting
17 one of (1) the gain of the video amplifier to be substantially zero and (2) a connection state of the

18 analog switches to be in a disconnected state when the microcomputer determines that the stored
19 ID code is unequal to the keyed ID code; and
20 a mixer to provide CRT drive signals from a mix of the amplified image signals and the
21 analog on-screen image signals.

1 4. (Amended) The system of claim 3, wherein the microcomputer includes a first program
2 module to receive and store a flag in the memory to indicate that a [pass word] password system
3 is one of enabled and disabled.

1 5. (Amended) The system of claim 4, wherein the microcomputer further includes a
2 second program module to receive the keyed ID code and store the keyed ID code in the memory
3 as the stored ID code when the flag indicates that the [pass word] password system is enabled.

1 6. (Amended) The system of claim 5, wherein the microcomputer further includes:
2 a third program module to read the flag from the memory each time the display system is
3 turned on to determine whether the [pass word] password system is enabled;
4 a fourth program module to read data as an ID code from the memory at a location reserved
5 for the stored ID code when the [pass word] password system is enabled;
6 a fifth program module to determine consistency between the keyed ID code and the data
7 read as an ID code from the memory;
8 a sixth program module to operate a normal routine of the display system when the keyed
9 ID code and the data read as an ID code from the memory are consistent; and

10 an seventh program module to operate an error routine of the display system when the
11 keyed ID code and the data read as an ID code from the memory are inconsistent.

1 7. (Amended) The system of claim 4, wherein the microcomputer further includes a
2 second program module to receive the keyed ID code and store the keyed ID code in the memory
3 as the stored ID code when both (1) the flag indicates that the [pass word] password system is
4 enabled and (2) data stored in the memory at a location reserved for the stored ID code has a
5 predetermined value indicating that no ID code has been stored in the memory.

1 8. (Amended) The system of claim 4, wherein the microcomputer further includes a
2 second program module to read the flag from the memory each time the display system is turned
3 on to determine whether the [pass word] password system is enabled.

1 9. (Amended) The system of claim 8, wherein the microcomputer further includes a third
2 program module to operate a normal routine of the display system when the [pass word] password
3 system is disabled.

1 10. The system of claim 3, wherein the microcomputer includes a first program module
2 to receive the keyed ID code and store the keyed ID code in the memory as the stored ID code.

1 11. (Amended) The system of claim 10, wherein the microcomputer further includes:
2 a second program module to read data as an ID code from the memory at a location

3 reserved for the stored ID code when a [pass word] password system is enabled;

4 a third program module to determine consistency between the keyed ID code and the data
5 read as an ID code from the memory;

6 a fourth program module to operate an error routine of the display system when the keyed
7 ID code and the data read as an ID code from the memory are inconsistent;

8 a fifth program module to receive horizontal and vertical synchronizing signals from the
9 computer system; and

10 a sixth program module to control the on-screen circuit to generate the analog on screen
11 image signals, the analog on screen image signals being synchronized with the horizontal and
12 vertical synchronizing signals and causing a message to be carried in the CRT drive signals, the
13 message indicating that the keyed ID code is inconsistent with the stored ID code when the error
14 routine is operated.

1 12. The system of claim 3, wherein the microcomputer includes:

2 a first program module to receive horizontal and vertical synchronizing signals from the
3 computer system;

4 a second program module to receive digital message signals from the computer system; and

5 a third program module to control the on-screen circuit to generate the analog on screen
6 image signals, the analog on-screen image signals being synchronized with the horizontal and
7 vertical synchronizing signals and causing a message to be displayed on the display device, the
8 message being composed in accordance with the digital message signals.

1 13. In a display system that includes a microcomputer and a memory and a key pad and
2 an on screen circuit and a video amplifier, the display system being associated with a computer
3 system, a method comprising steps of:

4 amplifying analog computer image signals from the computer system in the video amplifier
5 to provide amplified image signals;

6 converting digital information signals from the microcomputer into analog on-screen image
7 signals in the on screen circuit, the microcomputer being coupled to horizontal and vertical
8 synchronizing signals from the computer system to synchronize the analog on-screen image signals
9 with the analog computer image signals;

10 storing a stored ID code in the memory;

11 forming a keyed ID code in the microcomputer from key pad inputs;

12 determining in the microcomputer when the stored ID code is unequal to the keyed ID code;

13 setting one of (1) the gain of the video amplifier to be substantially zero and (2) a
14 connection state of analog switches coupled between the computer system and the video amplifier
15 to be in a disconnected state when the microcomputer determines that the stored ID code is
16 unequal to the keyed ID code; and

17 mixing the amplified image signals and the analog on-screen image signals to provide CRT
18 drive signals.

1 14. (Amended) The method of claim 13, further including steps of receiving and storing
2 a flag in the memory to indicate that a [pass word] password system is one of enabled and disabled.

1 15. (Amended) The method of claim 14, wherein the step of storing a stored ID code
2 includes storing the keyed ID code in the memory as the stored ID code when the flag indicates
3 that the [pass word] password system is enabled.

1 16. (Amended) The method of claim 15, further including steps of:
2 reading the flag from the memory each time the display system is turned on to determine
3 whether the [pass word] password system is enabled;
4 reading data as an ID code from the memory at a location reserved for the stored ID code
5 when the [pass word] password system is enabled;
6 determining in the microcomputer consistency between the keyed ID code and the data read
7 as an ID code from the memory;
8 operating a normal routine of the display system when the keyed ID code and the data read
9 as an ID code from the memory are consistent; and
10 operating an error routine of the display system when the keyed ID code and the data read
11 as an ID code from the memory are inconsistent.

1 17. (Amended) The method of claim 14, wherein the steps of storing a stored ID code
2 includes storing the keyed ID code in the memory as the stored ID code when both (1) the flag
3 indicates that the [pass word] password system is enabled and (2) data stored in the memory at a
4 location reserved for the stored ID code has a predetermined value indicating that no ID code has
5 been stored in the memory.

1 18. (Amended) The method of claim 14, further including a step of reading the flag from
2 the memory each time the display system is turned on to determine whether the [pass word]
3 password system is enabled.

1 19. (Amended) The method of claim 18, further including a step of operating a normal
2 routine of the display system when the [pass word] password system is disabled.

1 20. The method of claim 13, wherein the step of storing a stored ID code includes storing
2 the keyed ID code in the memory as the stored ID code.

1 21. (Amended) The method of claim 20, further including steps of:
2 reading data as an ID code from the memory at a location reserved for the stored ID code
3 when a [pass word] password system is enabled;
4 determining in the microcomputer consistency between the keyed ID code and the data read
5 as an ID code from the memory;
6 operating an error routine of the display system when the keyed ID code and the data read
7 as an ID code from the memory are inconsistent;
8 receiving horizontal and vertical synchronizing signals from the computer system; and
9 [generate] generating the analog on screen image signals in the on screen circuit, with the
10 analog on screen image signals being synchronized with the horizontal and vertical synchronizing
11 signals and causing a message to be carried in the CRT drive signals, the message indicating that
12 the keyed ID code is inconsistent with the stored ID code when the error routine is operated.

1 22. (Amended) The method of claim 13, further including steps of:
2 receiving at the microcomputer horizontal and vertical synchronizing signals from the
3 computer system;
4 receiving at the microcomputer digital message signals from the computer system; and
5 generating the analog on screen image signals in the on screen circuit, with the analog
6 on-screen image signals being synchronized with the horizontal and vertical synchronizing signals
7 and causing a message to be displayed on the display device, the message being composed in
8 accordance with the digital message signals.

1 23. An apparatus, comprising:
2 a display device attachable to a computer, displaying an image;
3 a circuit for converting electronic signals from said computer into said image;
4 memory means for storing ID code data input via a user; and
5 a microcomputer for controlling said display device responsive to a result of a comparison
6 between an ID code input by said user with said ID code data stored in said memory, and for
7 receiving signals from said computer to control an operation of said display device.

1 24. The apparatus of claim 23, said apparatus further comprising a plurality of switches
2 interposed on a respective electrical conduction path between respective output terminals of said
3 computer and respective input terminals of said circuit, said switches being turned off by a control
4 signal output from a terminal of said microcomputer when the result of said comparison indicates

5 that said ID code input by said user is inconsistent with said stored ID code data.

1 25. (Twice Amended) In cooperation with a computer that provides computer image
2 signals, an apparatus comprising:

3 a driver that responds to reception of image components of the image signals from the
4 computer by driving a display device to display variable visual images that are representative of
5 the image signals;

6 a plurality of switches disposed to operationally couple said driver to the display device;

7 a microcomputer coupled to receive other components of said image signals from the
8 computer, to initiate display by the display device of variable visual representations different from
9 said visual images;

10 a memory maintaining a stored ID code readable by said microcomputer;

11 a key pad enabling a user to input a keyed ID code to said microcomputer; and

12 a circuit responding to said microcomputer by driving the display device to display said
13 variable visual representations;

14 said microcomputer making a comparison between the stored ID code and the keyed ID
15 code, and in dependence upon said comparison, setting one of (1) the gain of the driver to be
16 substantially zero and (2) states of operational conduction between said driver and the display
17 device via said switches to a disconnected state.

1 26. The apparatus of claim 25, wherein the microcomputer includes a first program module
2 to receive and store a flag in the memory to indicate that a password is one of enabled and

3 disabled.

1 27. The apparatus of claim 26, wherein the microcomputer further includes a second
2 program module to receive the keyed ID code and store the keyed ID code in the memory as the
3 stored ID code when the flag indicates that the password is enabled.

1 28. (Amended) The apparatus of claim 27, wherein the microcomputer further includes:
2 a third program module to read the flag from the memory each time the display device is
3 turned on to determine whether the password is enabled;

4 a fourth program module to read data as an ID code from the memory at a location reserved
5 for the stored ID code when the password is enabled;

6 a fifth program module to determine consistency between the keyed ID code and the data
7 read as an ID code from the memory;

8 a sixth program module to operate a normal routine of the display device when the keyed
9 ID code and the data read as an ID code from the memory are consistent; and

10 a seventh program module to operate an error routine of the display device when the keyed
11 ID code and the data read as an ID code from the memory are inconsistent.

1 29. (Amended) The apparatus of claim 26, wherein the microcomputer further includes
2 a second program module to receive the keyed ID code and store the keyed ID code in the memory
3 as the stored ID code when both (1) the flag indicates that the password is enabled and (2) data
4 stored in the memory at a location reserved for the stored ID code has a predetermined value

5 indicating that no ID code has been stored in the memory.

1 30. (Amended) The apparatus of claim 26, wherein the microcomputer further includes
2 a second program module to read the flag from the memory each time the display device is turned
3 on to determine whether the password is enabled.

1 31. (Amended) The apparatus of claim 30, wherein the microcomputer further includes
2 a third program module to operate a normal routine of the display device when the password
3 system is disabled.

1 32. The apparatus of claim 25, wherein the microcomputer includes a first program module
2 to receive the keyed ID code and store the keyed ID code in the memory as the stored ID code.

1 33. (Amended) The apparatus of claim 32, wherein the microcomputer further includes:
2 a second program module to read data as an ID code from the memory at a location
3 reserved for the stored ID code when a password is enabled;

4 a third program module to determine consistency between the keyed ID code and the data
5 read as an ID code from the memory;

6 a fourth program module to operate an error routine of the display device when the keyed
7 ID code and the data read as an ID code from the memory are inconsistent;

8 a fifth program module to receive horizontal and vertical signals from the computer; and

9 a sixth program module to control the circuit to generate analog image signals, causing said

10 variable visual representation to be carried in drive signals, said variable visual representation
11 indicating that the keyed ID code is inconsistent with the stored ID code when the error routine is
12 operated.

1 34. (Amended) The apparatus of claim 25, wherein the microcomputer includes:
2 a first program module to receive horizontal and vertical signals from the computer;
3 a second program module to receive digital message signals from the computer; and
4 a third program module to control the circuit to generate the analog image signals, causing
5 said variable visual representation to be displayed on the display device.

1 35. (Amended) In an apparatus that includes a microcomputer and a memory and a key
2 pad and a circuit, a method comprising the steps of:
3 driving computer image signals from a computer in a display driver to provide image
4 signals to drive a display;
5 converting digital information signals from the microcomputer into image signals in the
6 circuit;
7 storing a stored ID code in the memory;
8 forming a keyed ID code in the microcomputer from key pad inputs;
9 determining in the microcomputer when the stored ID code is unequal to the keyed ID code;
10 and
11 setting the computer and the display driver to be in a disconnected state when the
12 microcomputer determines that the stored ID code is unequal to the keyed ID code.

1 36. (Amended) The method of claim 35, further including steps of receiving and storing
2 a flag in the memory to indicate that a password is one of enabled and disabled.

1 37. (Amended) The method of claim 36, wherein the step of storing a stored ID code
2 includes storing the keyed ID code in the memory as the stored ID code when the flag indicates
3 that the password is enabled.

1 38. (Amended) The method of claim 37, further including steps of:
2 reading the flag from the memory each time the display is turned on to determine whether
3 the password is enabled;
4 reading data as an ID code from the memory at a location reserved for the stored ID code
5 when the password is enabled;
6 determining in the microcomputer consistency between the keyed ID code and the data read
7 as an ID code from the memory;
8 operating a normal routine of the display when the keyed ID code and the data read as an
9 ID code from the memory are consistent; and
10 operating an error routine of the display when the keyed ID code and the data read as an
11 ID code from the memory are inconsistent.

1 39. (Amended) The method of claim 35, wherein the steps of storing a stored ID code
2 includes storing the keyed ID code in the memory as the stored ID code when both (1) the flag

3 indicates that the password is enabled and (2) data stored in the memory at a location reserved for
4 the stored ID code has a predetermined value indicating that no ID code has been stored in the
5 memory.

1 40. (Amended) The method of claim 35, further including a step of reading the flag from
2 the memory each time the display is turned on to determine whether the password is enabled.

1 41. (Amended) The method of claim 40, further including a step of operating a normal
2 routine of the display when the password is disabled.

1 42. The method of claim 35, wherein the step of storing a stored ID code includes storing
2 the keyed ID code in the memory as the stored ID code.

1 43. (Amended) The method of claim 42, further including steps of:
2 reading data as an ID code from the memory at a location reserved for the stored ID code
3 when a password is enabled;

4 determining in the microcomputer consistency between the keyed ID code and the data read
5 as an ID code from the memory;

6 operating an error routine of the display when the keyed ID code and the data read as an
7 ID code from the memory are inconsistent; and

8 generating an image signal in the circuit, causing a message to be carried in said image to
9 drive said display, the message indicating that the keyed ID code is inconsistent with the stored

10 ID code when the error routine is operated.

1 44. The method of claim 35, further including steps of:
2 receiving at the microcomputer horizontal and vertical signals from the computer;
3 receiving at the microcomputer digital message signals from the computer; and
4 generating an image signal in the circuit, causing a message to be displayed on the display,
5 the message being composed in accordance with the digital information signals.

1 45. (Amended) An apparatus, comprising:
2 a memory having a password identification code stored within;
3 a keyboard for inputting said password identification code;
4 a display unit connected to a computer, the computer being enabled only when said
5 password identification code is entered on said keyboard;
6 a converter for converting electronic image signals from the computer to an image to be
7 displayed on said display unit;
8 a driver for driving said display to display said image on said display unit; and
9 a circuit for disabling said driver when information typed on said keyboard does not match
10 said password identification code stored in said memory, wherein said circuit enables said driver
11 when said information typed on said keyboard matches said password identification code stored
12 in said memory.

1 46. The apparatus system of claim 45, wherein said display unit is a liquid crystal display

2 unit.

1 47. The apparatus of claim 46, wherein said driver comprises three control lines of yellow,
2 red and blue signals to achieve a color display.

1 48. (Amended) A method for securing a display unit on a computer, comprising the steps
2 of:

3 providing a memory having a password identification code stored within;
4 converting digital image signals from the computer into image signals;
5 driving said image signals to produce a visual image on said display unit;
6 inputting a code on a keyboard attached to said computer;
7 comparing in a microprocessor said inputted code to said password identification code
8 stored in memory;
9 responding to a determination by said microprocessor that said inputted code does not
10 match said password identification code stored in memory, by disabling said display unit; and
11 enabling said display unit to continue to produce said visual image based on signals from
12 said computer when said microcomputer makes a determination that inputted code matches said
13 password identification code stored in said memory.

1 49. The method of claim 48, wherein said step of disabling said display unit comprises
2 disabling drivers for said display unit.

1 50. The method of claim 48, wherein said step of enabling said display unit comprises
2 enabling drivers for said display unit.

1 51. An apparatus, comprising:
2 a display device operationally driven by image information signals to display an image on
3 a screen;
4 a circuit coupled to drive said display device by converting image information signals
5 received from a computer into said image signals;
6 a memory storing ID code data selected by a user; and
7 a microcomputer interrupting said display in dependence upon a relation between said
8 selected ID code data and ID code data subsequently input by the user, while continuously
9 controlling said presentation based on control signals simultaneously provided by the computer
10 concurrently with said image information signals.

1 52. In cooperation with a computer that provides computer image signals, an apparatus
2 comprising:
3 a driver that responds to reception of image components of the image signals from the
4 computer by driving a display device to display variable visual images that are representative of
5 the image signals;
6 a microcomputer coupled to receive other components of said image signals from the
7 computer, and to generate image information;
8 a memory maintaining a stored ID code readable by said microcomputer;

1 a key pad enabling a user to input a keyed ID code to said microcomputer; and
2 a circuit responding to reception of said image information from said microcomputer by
3 driving the display device to display variable visual representations different from said visual
4 images;
5 said microcomputer making a comparison between the stored ID code and the keyed ID
6 code, and in dependence upon said comparison, controlling said driving of the display device by
7 the driver.

1 53. In cooperation with a computer that provides computer image signals, an apparatus
2 comprising:

3 a driver that responds to reception of image components of the image signals from the
4 computer by driving a display device to display variable visual images that are representative of
5 the image signals;

6 a microcomputer coupled to receive other components of said image signals from the
7 computer, to initiate display by the display device of variable visual representations independently
8 of said image components;

9 a memory maintaining a stored ID code readable by said microcomputer; and
10 a circuit responding to said microcomputer by driving the display device to display said
11 variable visual representations;

12 said microcomputer making a comparison between the stored ID code an input ID code
13 provided by a user, and in dependence upon said comparison, controlling said driving of the
14 display device by the driver.

1 54. A video image display, comprising:
2 a display device providing a screen displaying variable visual images;
3 a circuit converting electronic signals from a source of video image signals attachable to
4 said display device, into said images;
5 a memory storing ID code data input via a user; and
6 a microcomputer controlling said display device in dependence upon a result of a
7 comparison between an ID code input by said user with said ID code data stored in said memory,
8 while controlling operation of said display device in conformance with signals concurrently
9 received from said source.

1 55. A video image display, comprising:
2 a display device providing a visual display of varying images in response to reception of
3 first image signals;
4 a memory maintaining a stored identification code;
5 a first circuit stage operationally coupled to apply said first image signals to said display
6 device in response to reception of image information;
7 a second circuit stage operationally coupled to apply variably video signals to drive said
8 display device to display additional images in response to reception of a digital information signal;
9 a third circuit stage supplying said digital information signal to said second circuit stage
10 in dependence upon correspondence between said stored identification code and a keyed
11 identification code received from episodic entry by a user of said display device.

1 56. The display of claim 55, comprising:

2 a switching stage coupled to conduct said first image signals between a source of said first
3 image signals and said first stage, enabling said third stage to control application of said first
4 image signals to drive said visual display.

1 57. A video image display process, comprising:

2 assembling a display device providing a screen displaying variable visual images;
3 coupling to said display device, a circuit converting electronic signals from a source of
4 video image signals attachable to said display device, into said images;

5 coupling a memory to write and store an ID code data input by a user of the display device;
6 and

7 connecting a microcomputer to control said display device in dependence upon a result of
8 a comparison between an ID code input by said user with said ID code data stored in said memory,
9 with said microcomputer controlling operation of said display device in conformance with signals
10 concurrently received from said source.

1 58. A video image display process, comprising:

2 assembling a display device providing a visual display of varying images in response to
3 reception of first image signals;

4 coupling a memory maintaining a stored identification code;

5 coupling to said display device, a first circuit stage operationally coupled to apply said first

6 image signals to said display device in response to reception of image information;

7 coupling a second circuit stage to operationally apply variably video signals to drive said
8 display device to display additional images in response to reception of a digital information signal;

9 connecting a third circuit stage to operationally supply said digital information signal to
10 said second circuit stage in dependence upon correspondence between said stored identification
11 code and a keyed identification code received from episodic entry by a user of said display
12 device.

1 59. The process of claim 58, comprising:

2 coupling a switching stage to conduct said first image signals between a source of said first
3 image signals and said first stage, enabling said third stage to control application of said first
4 image signals to drive said visual display.

1 60. In cooperation with a computer that provides computer image signals, assembling an
2 apparatus comprising:

3 a driver that responds to reception of image components of the image signals from the
4 computer by driving a display device to display variable visual images that are representative of
5 the image signals;

6 a microcomputer coupled to receive other components of said image signals from the
7 computer, to initiate display by the display device of variable visual representations independently
8 of said image components;

9 a memory maintaining a stored ID code readable by said microcomputer; and

10 a circuit responding to said microcomputer by driving the display device to display said
11 variable visual representations;

12 said microcomputer making a comparison between the stored ID code an input ID code
13 provided by a user, and in dependence upon said comparison, controlling said driving of the
14 display device by the driver.